Checkpoint Gen ration and Usag in a Virtual Computer System

ABSTRACT OF THE DISCLOSURE

To generate a checkpoint for a virtual machine (VM), first, while the VM is still
5   running, a copy-on-write (COW) disk file is created pointing to a parent disk file that the
VM is using. Next, the VM is stopped, the VM's memory is marked COW, the device
state of the VM is saved to memory, the VM is switched to use the COW disk file, and
the VM begins running again for substantially the remainder of the checkpoint
generation. Next, the device state that was stored in memory and the unmodified VM
10   memory pages are saved to a checkpoint file. Also, a copy may be made of the parent
disk file for retention as part of the checkpoint, or the original parent disk file may be
retained as part of the checkpoint. If a copy of the parent disk file was made, then the
COW disk file may be committed to the original parent disk file.